

ATTACHMENT 2: INSPECTION PLAN

1.0 PURPOSE AND OBJECTIVES

A post-closure inspection plan will be implemented to periodically assess the condition of the closed unit. This plan will address:

- Security-control devices
- Cover settlement and displacement
- Integrity of erosion-protection layer
- Integrity of run-on and run-off control measures
- Functioning of cover drainage system
- Monitoring well conditions
- Benchmark integrity

2.0 SCHEDULE AND CHECKLIST

Routine inspections will be performed semi-annually. A copy of the semi-annual inspection log is shown in Figure 2-1. To the extent possible, inspections will be performed by the same person, thus allowing changes to be more readily noticed. Completed inspection forms will be included in the annual report submitted to the Division of Waste Management and Radiation Control, as specified by Condition III.C.1. of this Permit.

Specifics of the inspections are as follows:

- **Security Control Devices:** The fence and gates that control access to the disposal cell will be visually inspected semi-annually. Care will be taken to observe for signs of weakness, damage, or deterioration to fencing materials, gates, locks, and warnings signs.
- **Cover Settlement and Displacement:** The general integrity of the cover will be visually inspected semi-annually. Observations will be made regarding vertical and horizontal changes in the cover system. A survey marker was established on the completed cover during final construction. Once every three years this marker will be surveyed to determine if horizontal or vertical changes in location have occurred.
- **Integrity of Erosion Protection Layer:** The final gravel layer on the cover will be visually inspected semi-annually for signs of damage. Care will be taken to note the formation of rills, cracks, depressions, and any unusual signs of wetness. In particular, observations will be made to determine if the underlying soil layer or geomembrane is exposed.
- **Integrity of Run-on and Run-off Control Measures:** Run-on and run-off control measures will be visually inspected semi-annually. This will include inspection of gravel on the face of the embankment adjacent to the former stream channel as well as top and embankment slopes that will be subjected to sheet flow. Observations will be made regarding the

formation of rills and depressions that may locally concentrate run-off and increase erosion potential.

- **Functioning of Cover Drainage System:** The cover drainage system is buried and, therefore, not directly visible. However, semi-annual observations will be made of the edge of the embankments at the depth the drainage layer exists. Observations will be made as to persistent wetness at that point (long after a precipitation event) that would suggest clogging or buildup of pressure within the drainage system. Exposure of the geofabric will also be noted on the inspection log.
- **Monitoring Well Conditions:** The monitoring wells associated with the WDC will be inspected semi-annually. This inspection will check for whether the locking caps are in place and locked and will note if there is any visual damage to the well casing. Whenever samples are collected from the monitoring well additional observations will be made of the inside of the protective casing and well casing, including signs of damage, discoloration, and depth to bottom of well, etc. Notes will also be kept during sampling of any difficulties in lowering or retrieving pumps and probes used for sample collection. (Note that record of inspections associated with sampling events will be kept in the sampler's field log book.)
- In addition, the monitoring wells associated with SWMUs will be inspected annually. The locks of all SMWUs wells and piezometers will be inspected and replaced if damaged. Inspection notes will be summarized in the annual Groundwater Monitoring and Site Management report.
- **Benchmark Integrity:** The integrity of the benchmark used for surveying settlement of the closed unit will be visually inspected at the time of surveying. Care will be taken to note signs of damage that suggest either vertical or horizontal offset of the benchmark.

3.0 MAINTENANCE PLAN

Items requiring maintenance will be noted during the inspections. Minor items requiring maintenance will be handled by the inspector. Any item the inspector cannot handle will be repaired through a qualified contractor. Particular care will be taken to resolve maintenance items created by settling, subsidence, and erosion. The Utah Division of Waste Management and Radiation Control shall be notified if any corrective maintenance procedure will require more than five working days to complete.

Items requiring minimal repair and no independent inspection (e.g., minor rills, small depressions, etc.) will be corrected within five working days. If more extensive repair or an independent inspection is required due to the magnitude of the problem (i.e., extensive erosion, major settlement, etc., the following schedule will be observed:

- Document the problem with notes, drawings, and/or photographs.

- Provide interim repair to the extent necessary to protect the closed facility from additional damage.
- Within five working days of the initial inspection, contract for independent inspection if deemed necessary. Conduct the independent inspection within ten working days of the initial inspection that identified the problem. During the independent inspection, determine specific remedial measures that are necessary to repair the problem.
- Within five working days of initial inspection, notify the Utah Division of Waste Management and Radiation Control of the problem and the measures being undertaken to correct it.
- Within ten working days of the independent inspection, contract with outside services if required to complete the repair. Begin the repair with two weeks of the independent inspection. Complete the repair as expeditiously as possible thereafter.

PENNZOIL-QUAKER STATE COMPANY
d.b.a. SOPUS Products
 Former Pennzoil Roosevelt Refinery

POST-CLOSURE INSPECTION/MAINTENANCE LOG
 Waste Disposal Cell

Please fill out form completely. If any item is marked yes for maintenance required, you must follow up immediately and ensure that item is properly repaired.

Facility Component	Required Inspection Interval	What to Look For	Maintenance Required?		Observations & Comments
			Yes	No	
Security Fence	Semi-annually	Breaks? Signs of Weakness?			
Warning Signs	Semi-annually	Missing or unreadable at 100'?			
Gates/Locks	Semi-annually	Broken or unlocked?			
Cover Settlement (visual)	Semi-annually	Cracks? Depressions? Other signs of settlement disturbances?			
Cover Displacement (visual)	Semi-annually	Cracks? Depressions? Bulges? Other signs of displacement?			
Erosion Protection Layer (gravel)	Semi-annually	Cracks? Depressions? Unusual signs of wetness? Gaps in gravel cover?			
Run-on/Run-off Control	Semi-annually	Gravel cover damaged? Rills? Cracks? Gaps?			
Cover Drainage System	Semi-annually	Persistent/excessive wetness along drainage exists? Geofabric exposed?			
Monitoring Well Condition: Check the following wells to see that the casings, caps and concrete pads are not damaged and that the wells are locked.	Semi-annually	Well ID	Status		
		MW-7			
		MW-11			
		MW-12			
		MW-19			
		MW-20			
		MW-21			
Survey Marker (instrument)	Three Years	Original datum: Surveyed datum this inspection?			
Benchmark Integrity	Three Years	Damage? Visible offset? (horizontal or vertical?)			

Inspector: _____

Date of Inspection: _____

Time of Inspection: _____ A.M. / P.M.

Figure 2-1